

AMENDMENTS TO THE CLAIMS:

Please amend the claims as follows. The claims are in the format as required by 35 C.F.R. § 1.121.

1. (Currently amended) A computer-readable medium storing computer-executable instructions implementing an industry-independent revenue management data model which is accessible by a revenue management software program being executed on a data processing system in a network and which comprises:

a first data structure for storing a representation of one or more network demands, each of which forecasts a number of requests expected for an item or a combination of items in the network;

a second data structure for storing a representation of one or more network resources, wherein each network resource has at least one attribute for measuring an ability to contribute to a satisfaction of the one or more network demands;

a third data structure for storing a representation of one or more resource bundles, wherein each resource bundle represents a single resource or a group of resources residing in the second data structure and wherein the group of resources are combinable to form a product or service; and

a fourth data structure for storing a representation of associations between the one or more resource bundles and the one or more network demands; wherein the first data structure is associated with the third data structure via the fourth data structure;

wherein the computer-executable instructions are further executable to:

split problem information into revenue management problem data and optimization sequence data[[.]];

~~mapping map~~ the revenue management problem data to the industry-independent revenue management data model[[.]]; and

based on the optimization sequence data, apply one or more revenue management problems to the revenue management problem data in the industry-independent revenue management data model to derive an optimal network-wide solution for the network.

2. (Previously Presented) The computer-readable medium of Claim 1, wherein each association residing in the fourth data structure associates a resource bundle residing in the third data structure to a network demand residing in the first data structure.
3. (Previously Presented) The computer-readable medium of Claim 1, wherein the second data structure further includes:
  - for each network resource,
  - a representation of the maximum capacity of the network resource;
  - a representation of the physical capacity of the network resource; and
  - a representation of the expected use capacity of the network resource.
4. (Previously Presented) The computer-readable medium of claim 1, wherein the fourth data structure further comprises:
  - for each association,
  - a representation of an optimal quantity; and
  - a representation of an optimal price.
5. (Previously Presented) The computer-readable medium of Claim 1, wherein the network is an airline network, an advertising network, a broadcasting network, or a transportation revenue network.
6. (Previously Presented) The computer-readable medium of Claim 1, wherein the network is an airline network and wherein the one or more network demands further comprise:
  - at least one itinerary demand; and
  - at least one fare class demand for one or more flights in the airline network.
7. (Previously Presented) The computer-readable medium of Claim 6, wherein a network resource includes a seat on a flight leg.
8. (Previously Presented) The computer-readable medium of Claim 7, wherein the resource bundle linked to the network resource includes an origin to destination itinerary.

9. (Previously Presented) The computer-readable medium of Claim 8, wherein an association residing in the fourth data structure associates the origin to destination itinerary residing in the third data structure with an itinerary demand residing in the first data structure.
10. (Previously Presented) The computer-readable medium of Claim 1, further comprising a fifth data structure representing a resource demand.
11. (Previously Presented) The computer-readable medium of Claim 10, wherein the resource demand represents a total demand on a network resource.
12. (Previously Presented) The computer-readable medium of Claim 1, wherein:
  - the first data structure further contains a representation of a plurality of network demands;
  - the second data structure further contains a representation of a plurality of network resources;
  - the third data structure further contains a representation of a plurality of resource bundles; and
  - the fourth data structure further contains a representation of a plurality of resource bundle to demand links; wherein the revenue management software program is operable to determine which of the plurality of resource bundles handle which of the plurality of demands in the network and to determine an optimal quantity of demands in the network to be satisfied by way of the plurality of resource bundles.
- 13-21. (Cancelled).

22. (Currently amended) A system for representing and solving revenue management problems in a network, comprising:

a computer readable medium embodying a set of software instructions, wherein the software instructions are executable to:

construct and store on a tangible storage medium a generic revenue management data model such that the generic revenue management data model comprises:

a first data structure for storing a representation of one or more network demands for an item or a combination of items in the network, wherein the one or more network demands are actual or forecasted demands;

a second data structure for storing a representation of one or more network resources, wherein each network resource has at least one attribute for measuring an ability to contribute to a satisfaction of the one or more network demands;

a third data structure for storing a representation of one or more resource bundles, wherein each resource bundle represents a single resource or a group of resources residing in the second data structure and wherein the group of resources are combinable to form a product or service; and

a fourth data structure for storing a representation of associations between the one or more resource bundles and the one or more network demands; wherein the first data structure is associated with the third data structure via the fourth data structure;

split problem information into revenue management problem data and optimization sequence data[[.]];

~~mapping the revenue management problem data to the industry-independent revenue management data model, and~~

~~based on the optimization sequence data, apply one or more revenue management programs to the revenue management problem data in the industry-independent revenue management data model to derive an optimal network-wide solution for the network~~

map the revenue management problems to the tangible storage medium according to the generic revenue management data model; and

based on the optimization sequence data, perform at least one network optimization to derive an optimal network-wide solution for the network by applying one or more revenue management programs to the revenue management problem data stored in the first data structure, the second data structure, the third data structure, and the fourth data structure.

23. (Previously Presented) The system of Claim 22, wherein the one or more network demands include:

at least one itinerary demand; and  
at least one fare class demand for one or more flights in an airline network.

24. (Previously Presented) The system of Claim 22, wherein the software instructions are further executable to:

for each network resource,  
store a representation of a maximum capacity for the network resource;  
store a representation of a physical capacity of the network resource; and  
store a representation of an expected use capacity of the network resource.

25. (Original) The system of claim 22, wherein the software instructions are further operable to:

store a representation of an optimal quantity in the fourth data structure; and  
store a representation of an optimal price in the fourth data structure.

26. (Original) The system of Claim 22, wherein the software instructions are further operable to store a representation of a resource demand in a fifth data structure.

27. (Previously Presented) The system of Claim 26, wherein the software instructions are further operable to generate the resource demand based on results of the network optimization.

28. (Currently amended) A computer-implemented method for managing revenue in a network, comprising:

constructing a generic revenue management data model in a database or memory structure in the network, wherein the generic revenue management data model comprises

a first data structure for storing a representation of a set of network demands, wherein the set of network demands are actual or forecasted demands for an item or a combination of items in the network;

a second data structure for storing a representation of a set of network resources, wherein each network resource has at least one attribute for measuring an ability to contribute to a satisfaction of a network demand;

a third data structure for storing a representation of a set of resource bundles, wherein each resource bundle represents a single resource or a group of resources residing in the second data structure and wherein the group of resources are combinable to form a product or service; and

a fourth data structure for storing a representation of associations between the set of resource bundles represented in the third data structure and the set of network demands represented in the first data structure;

splitting problem information into revenue management problem data and optimization sequence data; and

mapping the revenue management problem data to the database or the memory according to the generic revenue management data model; and

based on the optimization sequence data, applying one or more revenue management programs to the revenue management problem data in the generic revenue management data model to derive an optimal network-wide solution for the network.

29. (Previously Presented) The computer-implemented method according to claim 28, wherein the generic revenue management data model allows data for multifarious revenue management problems in the network to be expressed in a uniform format.

30. (Previously Presented) The computer-implemented method according to claim 28, further comprising:

applying one or more revenue management programs to the revenue management problem data stored in the generic revenue management data model to derive an optimal network-wide solution for the network.

31. (Previously Presented) The computer-implemented method according to claim 28, further comprising:

splitting problem information into the revenue management problem data and optimization sequence data; and

based on the optimization sequence data, applying one or more revenue management programs to the revenue management problem data stored in the generic revenue management data model to derive an optimal network-wide solution for the network.

32. (Previously Presented) The computer-implemented method according to claim 28, further comprising:

decomposing the network to determine how the optimal network-wide solution affects individual local resources.

33. (Previously Presented) The computer-implemented method according to claim 32, wherein the generic revenue management data model further comprises a fifth data structure for storing a representation of demands placed on the individual local resources.

34. (Previously Presented) The computer-implemented method according to claim 32, further comprising:

applying at least one revenue management program to the revenue management problem data stored in the generic revenue management data model to derive one or more locally optimal solutions.